

234-15

ACTA PHYSICA HUNGARICA

EDITORIAL BOARD

Z. BAY, R. GÁSPÁR, N. KÜRTI, K. NAGY, L. PÁL, A. SZALAY,
I. TARJÁN, B. TELEGDI, L. TISZA, E. WIGNER

EDITOR-IN-CHIEF

I. KOVÁCS

VOLUME 56



AKADÉMIAI KIADÓ, BUDAPEST
1984

CONTENTS

Volume 56

GENERAL PHYSICS

- On the Doppler Effect and Universal Fields: an Answer to Wilczyński. *M. F. Podlaha and T. Sjödin* 245

ELEMENTARY PARTICLES AND FIELDS

- On Quark and Colour Confinement. *C. v. Westenholz* 9
 On Semi-Simplicity of Superalgebras. *Nguyen Ai Viet* 39
 Axisymmetric Stationary Gravitational and Maxwell Fields in the General Scalar Tensor Theory.
T. Singh and Tarkeshwar Singh 55
 Three-Particle Decays of Heavy Higgs Bosons in the Weinberg-Salam Model. *G. Zsigmond* 73
 Relativistic Hydro- and Thermodynamics in Nonlinear Scalar Field. *G. Dávid* 217

NUCLEAR PHYSICS

- Effects of Nuclear Structure and Triplet-Singlet Interaction in the $1s2s\ ^3S_1$ Hyperfine Multiplet of Li^+ . *J. Kowalski, R. Neumann, S. Noehte, H. Suhr, G. zu Puttlitz and R. Herman* 199

ATOMIC AND MOLECULAR PHYSICS

- Potential Energy Curves and Dissociation Energy of the Diatomic Selenium Molecule.
P. Sambasiva Rao, R. Ramakrishna Reddy and T. V. Ramakrishna Rao 3
 Gáspár Universal Potential with Correlation Correction. *J. Glembockis and J. Petkevičius* 27
 LuF Molecule: True Potential Energy Curve and the Dissociation Energy. *N. Rajamanickam and B. Narasimhamurthy* 67
 Cohesive Energy and Debye Temperature of Some Aromatic Compounds — An Intermolecular Potential Approach. *S. P. Srivastava* 87
 Extension of the Iterative Procedure of Herman-Tipping-Short. *D. C. Patil* 95
 Luminescence Centre Responsible for Ultraviolet Emission in KCl:Sr Crystals. *N. L. Kekan and N. A. Patil* 171
 Experimental Application of the Theoretically Derived Analytical Expressions of the A -type Doubling of the $^5\Pi$ State belonging to the Intermediate Case between Hund's Cases a) and b)
I. Kovács and J. Antal 255

OPTICS

- Comments on the Paper "Some Remarks on the Origin of X-ray Diffraction Phenomena". *L. Zsoldos* 185

FLUIDS, PLASMAS AND ELECTRIC DISCHARGES

Non-Uniform Propagation of Weak Discontinuities in Radiation Magnetogas Dynamics. <i>Rama Shankar, Mohan Prasad and S. S. Prabhu</i>	139
Hollow Anode-Cathode He-Kr Ion Laser. <i>M. Jánossy, K. Rózsa, L. Csillag and Le Trong Muu</i> ..	147
Ein Magneto hydrodynamisches Dynamo-Modell. <i>J. Szabó</i>	189

CONDENSED MATTER

Study of the Structure of Some Alkaline Earths Phosphate and Borate Glasses by Mössbauer Effect. <i>N. A. Eissa, E. E. Shaisha and A. A. Bahgat</i>	21
Calculs des coefficients de dilatation de modèles simples à l'aide de la mécanique quantique. <i>Y. Thomas</i>	31
Decay of Cathodoluminescence from SiO ₂ Layers. <i>A. Frey</i>	107
Investigations on Al/Si Interface. <i>P. Glaser and D. Sawicka</i>	111
Dislocations in Semiconductor Materials and Devices. <i>T. Figielski</i>	119
Effective Masses and Phonon Dispersion in bcc Metals. <i>K. C. Gupta and R. P. S. Rathore</i>	131
Crystallization Process of Natural Iron Ores in Qatar. <i>H. A. Sallam, N. A. Eissa and H. A. Saleh</i> ..	159
Effect of Inverse Eutectoid Transformation and Grain Size on the Creep Behaviour of Mild Steel. <i>M. R. Nagy, M. M. El-Sayed and A. A. Mohamed</i>	177
Density of GAP States in Amorphous Semiconductors by the Field Effect. <i>J. Gazsó</i>	209
Effect of Cu-Dopants on the Birefringence of TGS Crystals. <i>L. Malicskó and R. Schälge</i>	251

ASTROPHYSICS

Thermosolutal Convective Instability in a Stellar Atmosphere. <i>R. C. Sharma and K. N. Sharma</i> ..	47
---	----

BOOK REVIEWS.....	257
-------------------	-----